



Public Sector Prizes and Challenges Show Increased Sophistication, Ambition and Use: A Fiscal Year 2014 Progress Report

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Summary: Today, OSTP also released its fourth annual comprehensive report detailing the use of prize competitions and challenges by Federal agencies to spur innovation, engage citizen solvers, address tough problems, and advance their core missions. This report details the remarkable results from 97 prize competitions and challenges offered by 30 agencies under a variety of authorities in FY 2014.

Today, the President is delivering the commencement address to the 2015 graduating class of Lake Area Technical Institute in Watertown, South Dakota. Lake Area Technical Institute is one of the top community colleges in the nation, and is recognized for rigorously preparing its students with the skills they need to compete in the 21st Century economy. With a two-year graduation rate more than twice the national average, Lake Area Technical Institute focuses on providing its graduates smooth pathways to high skilled careers with private-sector businesses. Lake Area Tech is one of only two community colleges in the nation that has been a finalist every year that the Aspen Prize for Community College Excellence has been awarded. The Aspen Prize for Community College Excellence is an outstanding example of cross-sector prize competitions being used to address tough social challenges, such as education. It is a prime example of the increased sophistication and use of prize competitions in the public sector.

Today, [OSTP also released its fourth annual comprehensive report](#) detailing the use of prize competitions and challenges by Federal agencies to spur innovation, engage citizen solvers,

address tough problems, and advance their core missions. This report details the remarkable results from 97 prize competitions and challenges offered by 30 agencies under a variety of authorities in FY 2014 as required by Section 105 of the America COMPETES Reauthorization Act of 2010 (COMPETES) added Section 24 (Prize Competitions) to the Stevenson-Wydler Technology Innovation Act of 1980 (Stevenson-Wydler). This report echoes the practice illustrated by the Aspen Prize for Community College Excellence: a trend towards increased sophistication and use of prize competitions and challenges in the public sector.

Over the past six years, the Obama Administration has taken important steps to make prize competitions and challenges a standard tool for open innovation in every Federal agency's toolbox. The September 2009 [Strategy for American Innovation](#) recognized the potential for prizes to mobilize America's ingenuity to solve some of the Nation's most pressing challenges. In March 2010, the Office of Management and Budget (OMB) issued a [formal policy framework](#) to guide agency leaders in using prizes to advance their core missions. In September 2010, the Administration launched [Challenge.gov](#), a one-stop shop where entrepreneurs and citizen solvers can find public-sector prize competitions and challenges. As of May 2015, Challenge.gov had featured more than 400 prize competitions and challenges from over 72 Federal agencies, departments, and bureaus.

A review of the 97 prize competitions and challenges conducted in FY 2014 under all authorities shows several trends in public-sector prizes, including:

- **Increased ambition and sophistication of prize competition and challenge designs enabled by partnerships:** In FY 2014, the majority of challenges (79 percent) were designed to achieve multiple goals, and more than one third were designed to produce multiple types of solutions. By increasing the number of goals a challenge is designed to accomplish, the complexity and design sophistication of those challenges increases. In addition, in FY 2014, partnerships were broadly utilized. Partnerships with other Federal agencies, not-for-profit, and for-profit entities allow agencies to be more ambitious in designing and executing challenges. In FY14, 56 percent of all prizes and challenges leveraged partnerships to expand their reach, impact, and scope. As agencies learn how to use and design prizes most effectively, they are progressively becoming more ambitious in prize design through partnerships and complex goal setting. This trend is evident in a number of agencies including NASA, DOE, DOD, USAID, NIJ, EPA, and HHS. An example of an ambitious challenge conceptualized, designed, and implemented during FY14 is [NASA's Asteroid Data Hunter Challenge](#), a partnership with Planetary Resources, Inc. to conduct a series of challenges leveraging Catalina Sky Survey data hosted on the Amazon Cloud. The Asteroid Data Hunter Challenge, a series of contests with a \$55,000

total prize purse, sought to improve the ability to detect potentially hazardous asteroids using imagery captured by ground-based telescopes. The algorithm created through this challenge series resulted in a 15 percent improvement over the current method of identifying asteroids in the main belt of Asteroids that orbit between Mars and Jupiter. These results were obtained for a total project cost of less than \$200,000, which is less than the salary for one full-time engineer for the same time period.

- **More prize competitions and challenges to develop low-cost software and IT solutions:** More than half of the 34 prizes conducted in FY 2014 under the authority provided by COMPETES and 38 percent of all prizes and challenges conducted in FY 2014 sought software and/or analytical solutions such as applications (apps), data visualization tools, and predictive models and algorithms. Many of these challenges sought to develop complex software through crowdsourcing. Going beyond app contests, challenges can be structured to build software that addresses a variety of government needs in a more cost-effective, agile and creative way than through traditional government contracts.
- For example, the [CMS Healthcare Fraud Partnership Data Exchange Network](#) Challenge sought to build a data exchange network that enables healthcare insurance-paying entities in both the public and private sector to safely and securely share information for purposes of prevention and detection of fraud, waste, and abuse across partners. Over 1,400 people competed for \$100,000 in prizes over the course of this challenge series. In this case, a challenge approach provided CMS with a low-cost way to test assumptions, understand state of the art software development capabilities, and refine the requirements for the product that they would ultimately procure in a larger acquisition. This challenge series also helped CMS learn how they might, in the future, use challenges to replace a more traditional acquisition and contract process for software development.
- **More prize competitions and challenges that focus on supporting entrepreneurship and commercialization:** Incentive prizes can be powerful tools for supporting entrepreneurs and small businesses by leveling the playing field and giving license to pursue an endorsed stretch goal that otherwise may have been considered overly audacious. Challenges that seek to support the creation of new business and the commercialization of services also often provide more incentives to participating teams than just a cash purse. They support the creation of sustainable teams around the commercialization of solutions, and will often provide additional incentives to participants such as: mentoring access to subject matter experts, intellectual property, or other resources; exposure to venture capitalists and other potential funders; and training. For example, [DOE's National Clean Energy Business Plan Competition \(NCEBPC\)](#), aims to inspire clean energy innovation across the country by creating businesses from best in-class technology research, while inspiring and cultivating America's next generation of entrepreneurs to drive those businesses forward. Though only in its fourth year, the NCEBPC has a legacy of

broad economic impacts. In the first three years, more than 70 ventures have incorporated, received more than \$38 million in follow-on funding, and generated more than 120 jobs.

- **New models for engaging the public and building communities during prize competitions and challenges.** Challenge managers experimented with new ways to engage the public and develop new communities through approaches such as: soliciting public comment on draft rules; operating a pilot challenge to determine interest and gather feedback from within the target participant population; using scouting services to identify potential participants in challenges; inviting winners to present webinars on their solutions to the target participation population; using “co-design” platforms to integrate user needs and opinions into the design of solutions; announcing challenges at events where target participants already attend (e.g. datapaloozas, DEFCON, SXSW, etc); publication of winning solutions as open-source resources; using crowdfunding to support entrants; and hosting physical and virtual forums that allowed entrants and stakeholders to discuss, develop, and improve solutions both during and after the challenge. For example, in the \$50,000 Synthetic Biology for Materials Challenge, which addressed a highly technical and specialized problem, the Air Force Research Lab (AFRL) used pre-scouting services to identify key individuals in Universities and research labs to invite to the challenge.

In FY 2014, agencies operating prizes under COMPETES, as well as agencies using other authorities, continued to institutionalize the use of challenges and prize competitions. Now with several years of experience, agencies are issuing policies, establishing formal roles with responsibility for operating challenges, and creating communication networks to support prize designers and reach solver communities. In FY 2014, agencies with three or more years of experience offered challenges than agencies with less than three years of experience. The challenges those more experienced agencies conducted in FY14 attracted more entries and named more winners than challenges conducted by agencies with less than three years of experience. Finally, agencies with more than three years of experience were likely to conduct more ambitious prizes—like those that seek to develop technology and hardware—than those with less experience. However, agencies that have newly begun to operate challenges are learning from more experienced agencies’ best practices, and are also instituting infrastructural elements in anticipation of future prizes. The future for prize competitions and challenges continues to be bright as their sophistication and use grows steadily in the Federal government.

To support ongoing efforts at all Federal agencies, OSTP and the General Services Administration’s Challenge.gov program have trained over 1,500 agency staff through workshops, online resources, and an active community of practice. And NASA’s [Center of Excellence for Collaborative Innovation](#) (COECI) provides a full suite of prize implementation services, allowing

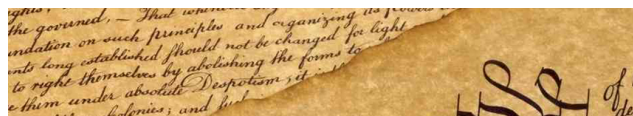
agencies to experiment with these new methods before standing up their own capabilities. To make these tools easier to use by more Federal employees, the Administration committed in the [2013 Second Open Government National Action Plan](#) to “convene an interagency group to develop an Open Innovation Toolkit for Federal agencies that will include best practices, training, policies, and guidance on authorities related to open innovation, including approaches such as incentive prizes, crowdsourcing, and citizen science.” Efforts to develop the Prizes and Challenges Toolkit [began in winter 2014](#).

Read the report released today [here](#).

Learn More:

- [21st Century Public Servants: Using Prizes and Challenges to Spur Innovation](#) (April 2015, OSTP Blog)
- [Implementation of Federal Prize Authority: Fiscal Year 2013 Progress](#) (May 2014)
- [Implementation of Federal Prize Authority: Fiscal Year 2012 Progress Report](#) (December 2013)
- [Initial Report from OSTP to Congress on Prizes and America COMPETES in FY2011](#) (March 2012)
- [Fact Sheet and FAQ on Prize Authority in the America COMPETES Reauthorization Act](#)
- [FAQ on PRA & Prizes and Challenges](#)
- [Open Government Directive](#) (December 8, 2009)
- HHS: [Resources for Challenge Managers at HHS](#) and [HHS Secretary Sebelius' delegation of authority](#)
- NASA: [NASA Policy Directive on Challenges, Prize Competitions, and Crowdsourcing Activities](#) and NASA's public portal for all prize, challenge and citizen science activities, [NASA Solve](#).
- USDA: [Departmental Regulation on Prizes and Challenges](#)

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